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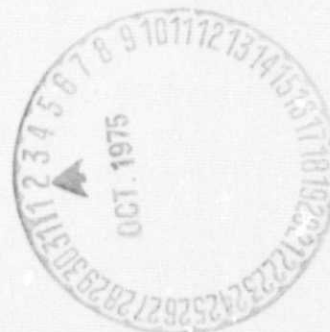
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**SURVEY OF PROJECTED GROWTH AND PROBLEMS FACING
AIR TRANSPORTATION , 1975-1985**

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16. Abstract <p>This brief report presents the results of a survey conducted during a workshop on "Transportation Demand and Systems Analysis," held June 2-4, 1975 in Washington, D.C. The purpose of the survey was to determine the current opinion of people working in air transportation demand forecasting on the future of air transportation over the next ten years. In particular, the survey included questions on future demand growth, load factor, fuel prices, introduction date for the next new aircraft, the priorities of problems facing air transportation, and the probability of a substantial change in air transportation regulation.</p> <p>The survey participants included 42 participants: 12 from airlines, 8 from manufacturers, 9 from universities, 8 from government agencies, and 5 from other organizations (financial institutions, private research companies, etc.).</p> <p>The results are shown for the average responses within the organization represented as well as the overall averages.</p>			
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SURVEY OF PROJECTED GROWTH AND PROBLEMS FACING AIR TRANSPORTATION, 1975-1985

By Louis J. Williams and Ann Wilson

INTRODUCTION

This brief report presents the results of a survey conducted during a workshop on "Transportation Demand and Systems Analysis," held June 2-4, 1975, in Washington, DC. The purpose of the survey was to determine the current opinion of people working in air transportation demand forecasting on the future of air transportation. In particular, the survey included questions on future demand growth, load factor, fuel prices, introduction date for the next new aircraft, and the priorities of problems facing air transportation.

PARTICIPANTS

The survey participants included a good cross section of the organizations involved in air transportation or air transportation research. There were 42 participants: 12 from airlines, 8 from manufacturers, 9 from universities, 8 from government agencies, and 5 from other organizations (financial institutions, private research companies, etc.) A blank survey form is included as Attachment 1.

RESULTS

The results are shown for the average responses within the organizations represented as well as the overall averages. In most cases, the results are shown in both tabular and graphical form.

GROWTH

The first six survey questions were on the projected average yearly growth for various air transportation markets over the next 10 years, 1975-1985. The results of this section of the survey are given in Table I and shown graphically in Figure 1. The overall averages and the average responses according to affiliation are shown for growth rates in each of the six transportation markets surveyed. The lowest growth rate, 5.3% per year, was forecast for scheduled domestic air carrier revenue passenger miles (RPM's). The highest growth rate, 12.2% per year, was forecast for international air cargo ton miles. For the purposes of this survey, international is defined as including all air transportation other than U.S. domestic service. The charter and air cargo markets were forecast to grow considerably faster than the scheduled passenger market. It is also interesting to note that all the government affiliated responses were at the high or optimistic end of the scale and the airline affiliated responses were at the low or conservative end of the scale.

LOAD FACTOR

The forecast average passenger load factor in 1985, for scheduled domestic service is given in Table II. The average responses show an expected increase to about 61% in 1985. This compares with an average value of 55.7% for the scheduled U.S. domestic trunk airlines in 1974 and 52.2% for the first six months of 1975.

FUEL PRICES

The forecast increases in domestic and international jet fuel prices are given in Table III. The wide differences in the responses reflect a great uncertainty with regard to future fuel prices. The airline and "other" affiliated responses were most pessimistic, with the airlines forecasting a doubling of 1975 fuel prices. The remaining participants were much less pessimistic and forecast much smaller increases ranging from 16 to 34%. The overall average forecast a fuel price increase of about 55% in both the domestic and international markets.

NEW AIRCRAFT INTRODUCTION

The forecast year of introduction for the next new (non-derivative) U.S. commercial transport aircraft is given in Table IV. The average response according to affiliation ranged from 1983 for the manufacturer participants to 1987 for the university participants. The overall average was 1985.

AIR TRANSPORTATION PROBLEM PRIORITIES

In this part of the survey, six transportation problem areas were listed and the survey participants were asked to rank them from 1 to 6 in order of decreasing concern (1 = highest priority, 6 = lowest priority).

The transportation problems listed were emissions, noise, airside congestion, ground access, fuel cost, and other costs. The number of responses of each rank for these problems is shown in Figure 2. As might be expected because of the wide range of responsibilities for the participants, the results are quite varied. For example, with the exception of emissions, there were some responses ranking each of the other problems as first priority. The average responses according to affiliation are given in Table V and shown graphically in Figure 3. The rank based on these averages is shown in Table VI.

The overall averages place the problems in order of the following priorities: (1) fuel cost, (2) ground access, (3) other costs, (4) airside congestion, (5) noise, and (6) emissions. The results for fuel cost problem priority are consistent with the higher forecasts for fuel price increases, shown in Table III, by the airline and "other" participants. The government participants' second priority ranking for aircraft noise reflects a much greater concern for this problem relative to the others than that expressed by the remaining participants.

CAB RESTRUCTURING

This question addresses the possibility of a significant change in the current form of air transportation regulation by the Civil Aeronautics Board. Asked whether there would be a substantial restructuring of the CAB during the next ten years, 14 participants (34%) answered yes, and 27 participants (66%) answered no.

The results by organizational affiliation are shown in Table VII. As shown in this table, the university participants were unanimous in answering no. The results from the other affiliations were mixed, with the consensus of the airline and manufacturer participants being no and the government and "other" participants being yes.

TABLE I - FORECAST AIR TRANSPORTATION GROWTH
1975-1985, AVERAGE %/YEAR

AFFILIATION	NUMBER OF RESPONSES	SCHEDULED DOMESTIC RPM'S	CHARTER DOMESTIC RPM'S	DOMESTIC AIR CARGO TON-MI.	SCHEDULED INTERNATIONAL RPM'S	CHARTER INTERNATIONAL RPM'S	INTERNATIONAL AIR CARGO TON-MI.
Airline	12	4.3	8.5	7.3	6.8	9.4	10.9
Manufacturer	8	5.1	9.3	7.6	8.9	11.5	11.0
University	9	5.8	10.0	8.3	6.3	11.9	13.4
Government	8	5.8	11.8	11.4	9.2	11.6	14.9
Other	5	6.3	9.2	8.8	7.5	9.0	10.8
ALL	42	5.3	9.7	8.5	7.6	10.7	12.2

TABLE II - FORECAST PASSENGER LOAD FACTOR
SCHEDULED DOMESTIC SERVICE, 1985

AFFILIATION	NUMBER OF RESPONSES	LOAD FACTOR, %
Airline	12	60.3
Manufacturer	8	61.1
University	9	61.3
Government	8	63.3
Other	5	59.4
ALL	42	61.1

TABLE III - FORECAST FUEL PRICE INCREASE IN 1985
PERCENT INCREASE IN CONSTANT DOLLARS RELATIVE TO 1975

AFFILIATION	NUMBER OF RESPONSES	DOMESTIC JET FUEL PRICE	INTERNATIONAL JET FUEL PRICE
Airline	12	100.5	112.6
Manufacturer	8	30.3	23.1
University	9	24.7	11.0
Government	8	29.0	33.9
Other	5	69.6	92.5
ALL	42	53.6	56.4

TABLE IV - FORECAST YEAR OF INTRODUCTION FOR NEXT NEW U.S.
COMMERCIAL TRANSPORT AIRCRAFT
(Non-Derivative Model)

AFFILIATION	NUMBER OF RESPONSES	YEAR
Airline	12	1985
Manufacturer	8	1983
University	9	1987
Government	8	1985
Other	4	1985*
ALL	42	1985

*One response of 2050 not included.

TABLE V - AIR TRANSPORTATION PROBLEM PRIORITIES
AVERAGE RESPONSE (1 = Highest, 6 = Lowest)

AFFILIATION	NUMBER OF RESPONSES	EMISSIONS	NOISE	AIRSIDE CONGESTION	GROUND ACCESS	FUEL COST	OTHER COSTS
Airline	12	5.3	4.4	3.3	3.6	2.3	2.6
Manufacturer	8	5.1	3.5	3.4	2.8	3.0	3.3
University	9	4.9	3.7	3.4	2.1	2.9	3.4
Government	8	4.5	2.9	3.5	2.9	3.3	4.0
Other	5	4.0	5.4	4.2	4.0	1.8	3.2
ALL	42	4.9	3.9	3.5	3.0	2.7	3.2

TABLE VI - AIR TRANSPORTATION PROBLEM PRIORITIES
RANK BASED ON AVERAGE RESPONSE (1 = Highest, 6 = Lowest)

AFFILIATION	NUMBER OF RESPONSES	EMISSIONS	NOISE	AIRSIDE CONGESTION	GROUND ACCESS	FUEL COST	OTHER COSTS
Airline	12	6	5	3	4	1	2
Manufacturer	8	6	5	4	1	2	3
University	9	6	5	4	1	2	3
Government	8	6	2	4	1	3	5
Other	5	4	6	5	3	1	2
ALL	42	6	5	4	2	1	3

TABLE VII - CAB RESTRUCTURING
PROBABLE SUBSTANTIAL CHANGE IN NEXT 10 YEARS?

AFFILIATION	YES	NO
Airline	4	7
Manufacturer	2	6
University	0	9
Government	5	3
Other	3	2
ALL	14	27

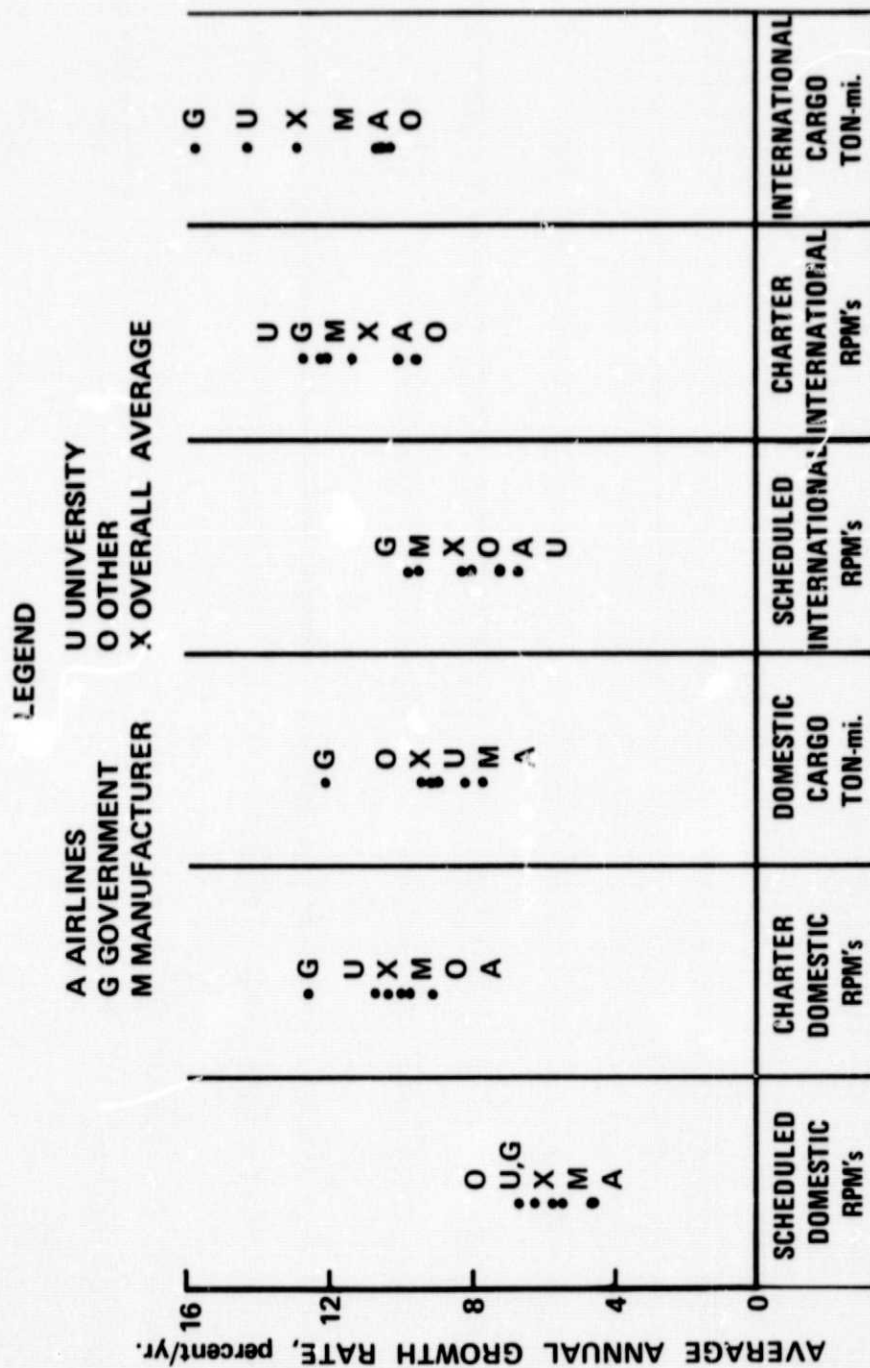


Figure 1.- Forecast Air Transportation Growth 1975 - 1985

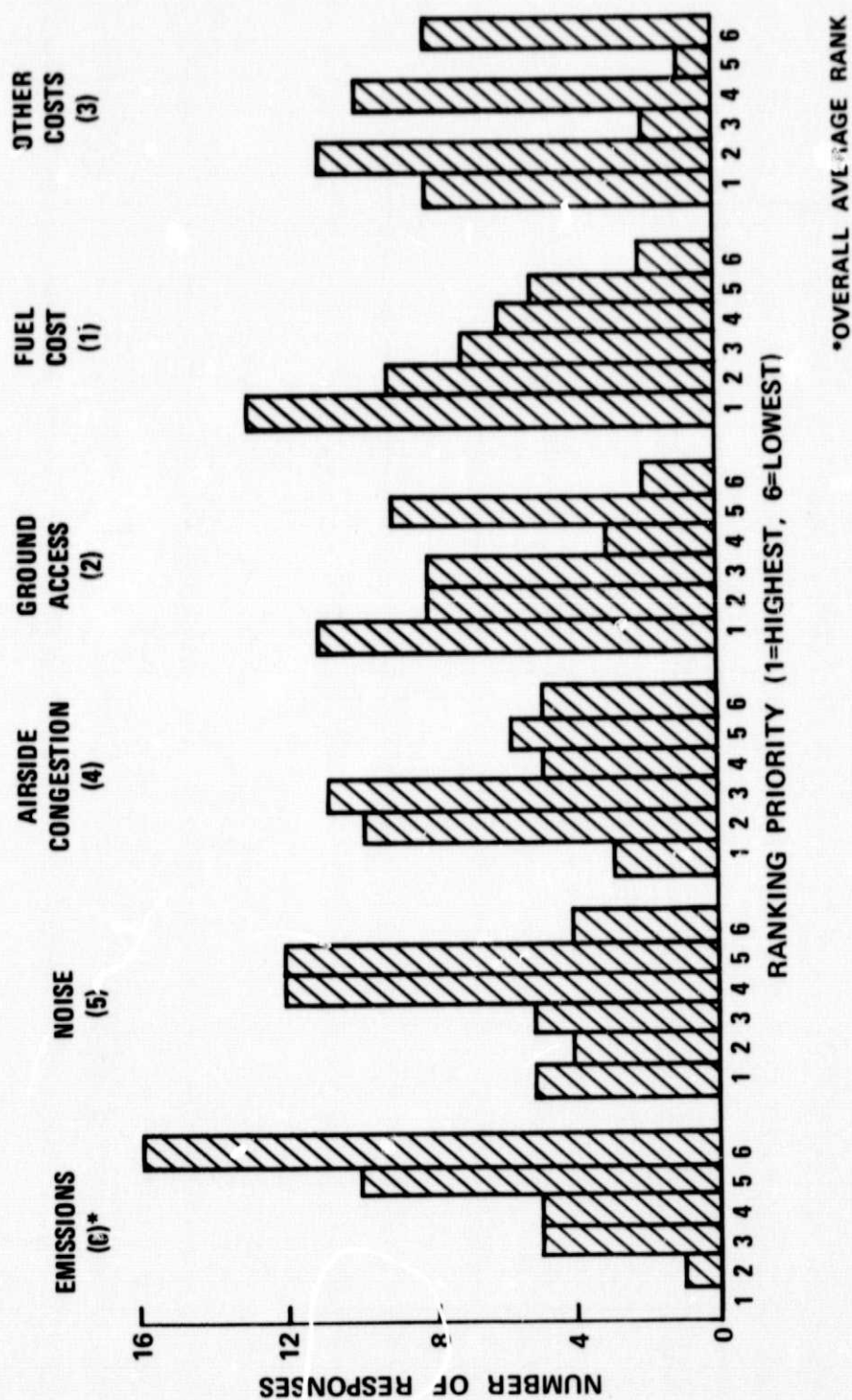


Figure 2.- Air Transportation Problem Priorities Response Distribution

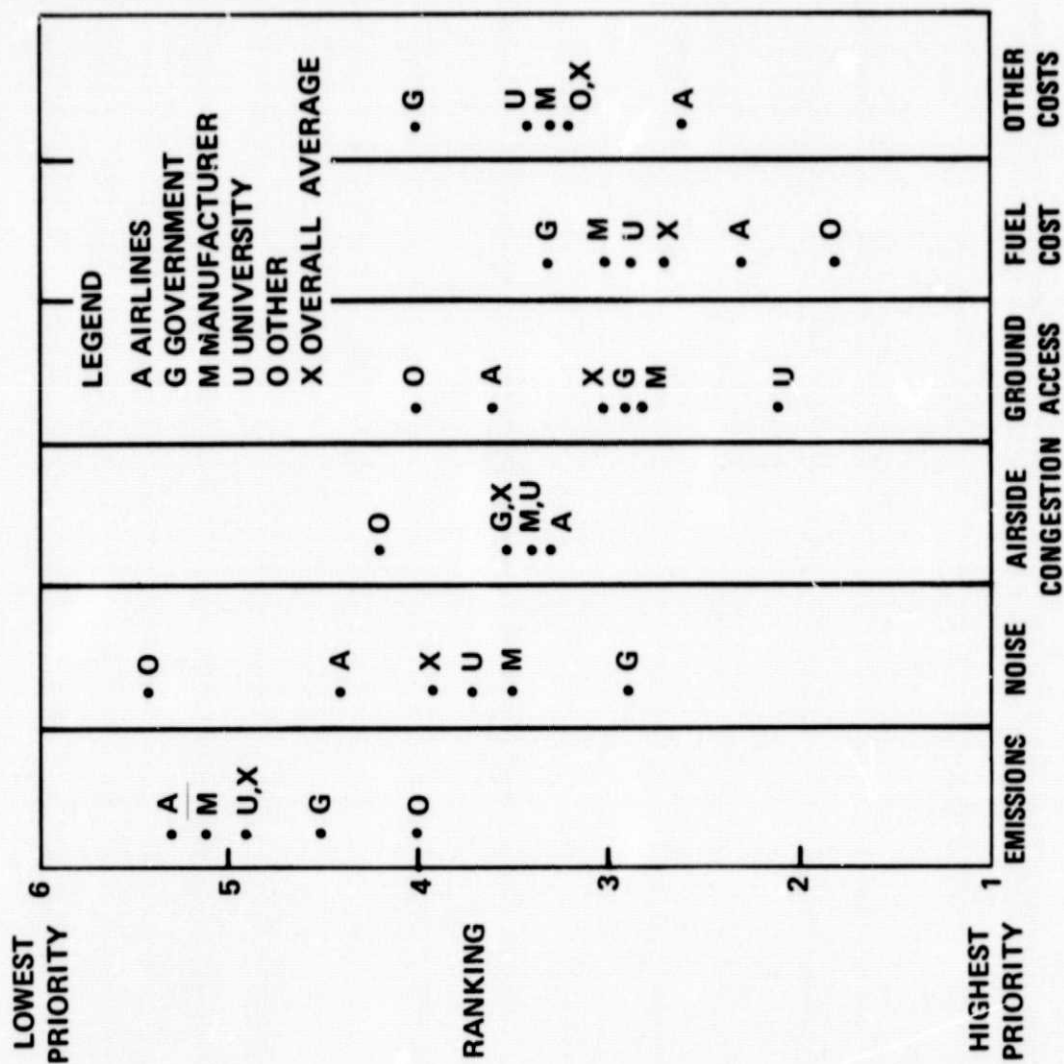


Figure 3.- Air Transportation Problem Priorities Average Response

Attachment 1

DEMAND FORECASTING SURVEY

(Fill in the blanks.)

Ave. Yearly Growth Rate

Over Next Ten Years

- 1) Scheduled Domestic Air Carrier Passenger Miles _____ %
- 2) Charter Domestic Air Carrier Passenger Miles _____ %
- 3) Domestic Air Cargo Ton Miles _____ %
- 4) Scheduled International Air Carrier Passenger Miles _____ %
(Everything other than U.S. Domestic)
- 5) Charter International Air Carrier Passenger Miles _____ %
- 6) International Air Cargo Ton Miles _____ %
- 7) Average Scheduled Domestic Load Factor in 1985 _____ %
- 8) Increase in 1985 Domestic Jet Fuel Price Relative to
Today's Prices (in constant dollars) _____ %
- 9) Increase in 1985 International Jet Fuel Price
Relative to Today's Prices (in constant dollars) _____ %
- 10) Initial Year of Introduction in Service of the Next
New U.S. Commercial Transport Aircraft (Non-Derivative
Model) _____ %
- 11) Priorities of Problems for Air Transportation

	<u>RANK</u>	<u>PROBLEM</u>
	_____	Emissions
(1 = worst problem)	_____	Noise
(6 = least problem)	_____	Airside Congestion
	_____	Ground Access
	_____	Fuel Cost
	_____	Other Costs
- 12) A Substantial Restructuring of the CAB
during the next ten years? YES _____ NO _____
- 13) Your affiliation (check one)

Airline _____	University _____
Manufacturer _____	Government _____
Airport Operator _____	Other _____